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February 21, 1982

Implement&Tractor

The business magazine of the farm & industrial equipment industry

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TWO-YEAR SALES FORECAST:

19[illegible] An improvement (2nd half)

1983 Looks pretty good

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Editorial, advertising
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9221 Quivira Rd.
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(a suburb of Kansas City, Mo.)
Telephone (913) 888-4664
Telex: 42-4156; Answerback:
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EDITORIAL
Bill Fogarty, Editor
Jack Root, Managing Editor
Charles A. McMurray, Jr., Editor, Red Book
Pat Blanton, Editor, Product File
Dudley Rose, Senior Art Director
Anita Blattner, Art Director
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Graham Fuller, Britain and Europe
Frank Buckingham, Agricultural Engineering
Melvin E. Long,
Engineering and Production Topics

CIRCULATION
John Arnst, Director
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Lou McNeill, Production
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R. J. Hancock, President
Edward F. Miskella, Publisher

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Implement&Tractor

The business magazine of the farm & industrial equipment industry

in this issue...

8: Industry Forecast: Marketing executives of FIEI's farm and agri-equipment divisions see sales improving during the second half of 1982 and getting better in 1983.

12: Approaches to Energy Savings in Basic Components. Ways of doing more work with less time and energy are explored by engineers working with engines and transmissions.

18: Paths of Growth. Two farm equipment dealers in New Zealand and Australia take different approaches: One does some manufacturing, the other concentrates on satellite operations.

DEPARTMENTS

What's Ahead 4
Editor's Notebook 5
Retail Sales of Wheel Tractors 6
Industry in Motion 16
New Literature 16
What's New 21
Retail Sales of Selected Farm Equipment 24
Farm Equipment Patents 26
Auction Prices 27
Classified Ads 30
Index to Advertisers 30
Brown Pages 31

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what's ahead...

I&T SINCE 1886

February 21, 1982

RETAIL SALES OF FARM EQUIPMENT IN THE U.S. wound up the year with some December advances but with generally depressed results for the full year. Two-wheel-drive tractors were up 23 per cent for December, but December 1980 was a weak sales month. Combine sales finished strong in December and up for the year. The flash report of the Farm & Industrial Equipment Institute included these numbers:

Unit Retail Sales

	December			January-December		
	1981	1980	Pct. Change	1981	1980	Pct. Change
Farm Wheel Tractors:						
2-wheel drive						
40-100 hp	3,829	3,225	+18.7	50,966	58,121	-12.3
Over 100 hp	3,486	2,713	+28.5	43,188	50,328	-14.2
Total 2-wheel drive	7,315	5,938	+23.2	94,154	108,449	-13.2
4-wheel drive	813	905	-10.2	9,676	10,887	-11.1
Total Tractors	8,128	6,843	+18.8	103,830	119,336	-13.0
Combines (S-P)	1,921	1,690	+13.7	26,830	25,760	+ 4.2
Balers*	234	411	-43.1	13,609	14,022	- 2.9
Forage Harvesters**	248	340	-27.1	7,603	9,461	-19.6
Mower Conditioners	512	741	-30.9	18,522	19,452	- 4.8

*Bales under 200 lbs. **Shear-bar type.

CANADIAN RETAIL SALES presented a similar picture. Here is the December flash report provided by the Canadian Farm & Industrial Equipment Institute:

Unit Retail Sales

	December			January-December		
	1981	1980	Pct. Change	1981	1980	Pct. Change
Farm Wheel Tractors	1,935	2,388	-19.0	27,217	29,298	- 7.1
Combines (S-P)	324	371	-12.7	5,043	4,115	+22.6
Mower-Conditioners	44	108	-59.0	3,879	4,209	- 7.8
Balers*	46	83	-44.6	3,231	4,030	-19.8

*Bales under 200 lbs.

LYLE E. YOST, HESSTON CORP. CHAIRMAN, will relinquish his post as chief executive officer soon and will recommend at the company's annual meeting in April that Howard Brenneman, president and chief operating officer, be named CEO. Yost, who founded Hesston in 1947, said he is willing to continue serving as chairman.

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RETAIL SALES OF WHEEL TRACTORS*
(In Units)

	Total Wheel Tractors†				Cumulative for Jan.-Nov., 1980				Cumulative for Jan.-Nov., 1981			
	Nov. 1980		Nov. 1981		Farm Type				Farm Type			
	Farm	Non-Farm	Farm	Non-Farm	2-Wheel Drive	4-Wheel Drive	Total Farm	Non-Farm	2-Wheel Drive	4-Wheel Drive	Total Farm	Non-Farm
Alabama	107	19	134	14	2,052	62	2,114	365	1,621	27	1,648	270
Alaska	.....	5	.....	.....	24	6	30	42	33	1	34	62
Arizona	62	20	47	17	787	93	880	438	772	74	846	338
Arkansas	162	34	183	18	2,840	326	3,166	500	2,516	298	2,814	294
California	369	138	265	100	4,084	401	4,485	2,519	3,650	421	4,071	1,828
Colorado	63	14	76	23	1,043	204	1,247	569	919	199	1,118	411
Connecticut	14	21	14	21	220	6	226	206	157	2	159	138
Delaware	7	1	5	3	135	9	144	36	99	3	102	44
Florida	165	64	164	57	2,356	108	2,464	1,089	2,169	67	2,236	993
Georgia	154	33	150	45	2,777	49	2,826	561	2,227	23	2,250	460
Hawaii	5	4	6	3	66	2	68	84	57	7	64	61
Idaho	155	9	90	2	1,153	178	1,331	135	1,209	249	1,458	129
Illinois	554	37	531	34	5,189	825	6,014	788	4,087	769	4,856	612
Indiana	374	21	224	10	3,082	470	3,552	437	2,183	364	2,547	294
Iowa	690	20	554	14	5,935	703	6,638	264	4,970	585	5,555	230
Kansas	346	15	176	9	3,389	710	4,099	305	2,414	473	2,887	219
Kentucky	213	19	191	14	3,580	75	3,655	465	2,896	41	2,937	388
Louisiana	238	34	162	49	2,536	243	2,779	579	2,393	202	2,595	647
Maine	10	3	24	6	231	3	234	86	238	6	244	74
Maryland	47	20	60	14	659	31	690	324	519	17	536	300
Massachusetts	4	14	9	9	135	1	136	265	141	.....	141	213
Michigan	311	20	187	22	2,410	302	2,712	729	2,127	337	2,464	512
Minnesota	484	18	345	15	4,243	717	4,960	353	3,733	588	4,321	241
Mississippi	314	21	156	20	3,079	242	3,321	376	2,383	164	2,547	243
Missouri	262	25	213	18	3,629	230	3,859	552	3,053	246	3,299	353
Montana	86	7	123	10	1,072	277	1,349	201	853	292	1,145	146
Nebraska	329	5	139	10	3,184	354	3,538	173	2,398	234	2,632	119
Nevada	1	4	3	3	104	11	115	115	68	10	78	112
New Hampshire	9	7	13	4	136	2	138	99	129	.....	129	86
New Jersey	11	17	12	20	275	4	279	456	204	.....	204	373
New Mexico	24	18	27	9	389	19	408	220	323	33	356	192
New York	172	55	152	36	2,347	99	2,446	850	2,031	158	2,189	702
North Carolina	272	34	280	27	3,286	51	3,337	596	2,505	40	2,545	493
North Dakota	235	16	230	10	1,578	802	2,380	143	1,714	808	2,522	87
Ohio	324	48	228	34	3,432	367	3,799	831	2,469	311	2,780	563
Oklahoma	200	25	122	60	2,520	353	2,873	579	2,205	282	2,487	667
Oregon	86	15	66	18	1,279	80	1,359	373	1,033	100	1,133	242
Pennsylvania	109	34	140	38	2,027	51	2,078	961	1,719	54	1,773	700
Rhode Island	1	5	.....	1	16	.....	16	45	14	.....	14	28
South Carolina	90	15	86	15	1,377	47	1,424	347	990	32	1,022	293
South Dakota	225	9	150	2	1,613	262	1,875	95	1,309	269	1,578	64
Tennessee	158	34	197	12	2,807	91	2,898	445	2,427	54	2,481	287
Texas	549	168	556	183	8,941	579	9,520	3,294	9,751	547	10,298	3,273
Utah	42	9	26	13	602	33	635	326	554	24	578	270
Vermont	12	.....	17	2	322	3	325	42	305	3	308	44
Virginia	113	15	115	15	2,026	25	2,051	506	1,477	17	1,494	307
Washington	123	30	117	32	1,772	185	1,957	447	1,288	175	1,463	362
West Virginia	21	14	37	2	430	.....	430	187	330	.....	330	120
Wisconsin	340	25	273	12	4,439	249	4,688	457	3,610	223	3,833	323
Wyoming	23	13	18	16	346	40	386	156	314	34	348	154
U.S. Government	.....	.....	.....	7	220	.....	220	590	15	.....	15	148
Miscellaneous‡	15	82	9	43	317	.....	317	578	238	.....	238	603
TOTAL	**8,680**	**1,333**	**7,102**	**1,171**	**102,491**	**9,980**	**112,471**	**25,183**	**86,839**	**8,863**	**95,702**	**20,114**

Data released January 25, 1982, Farm & Industrial Equipment Institute.

*Figures do not include garden tractors, motor tillers or contractors off-highway types. Report includes units marketed by these firms: Allied Farm Equip. (Leyland Satoh); Allis-Chalmers; Belarus; J I Case; Deere; Deutz; Ford; International Harvester; Long; Massey-Ferguson; R. M. Wade (Satoh); Steiger; Versatile; and White.

†The monthly sales are those reported for that month only. The cumulative totals are subject to revision reflecting updating in the basic sales data.

‡Sales reported as miscellaneous are retail sales which cannot be classified by state or as U.S. Government. They include sales and dispositions that do not go through usual marketing channels such as gifts to non-profit organizations, intra-plant or company transfers, etc.

SALES BACKGROUND, SALES OUTLOOK: 1982, 1983

(Retail sales of units, United States)

Product	1980 Actual Sales	1981 Actual Sales*	1982 Forecast Unit Sales	1982 Forecast Pct. Change	1983 Forecast Unit Sales	1983 Forecast Pct. Change
Tractors						
Under 40 HP	46,742	47,800E	48,200E	+0.8	50,500E	+4.8
40-99 HP	56,121	50,986	51,000	+0.1	53,600	+5.1
100 HP and over	50,328	43,180	43,350	+0.4	48,000	+10.7
Four-wheel drive	10,887	9,676	10,265	+6.1	11,300	+10.1
Total	166,078	151,630E	152,815E	+1.8	163,400E	+7.0
S-P Combines	25,760	26,830	27,755	+3.5	29,000	+5.3
Corn Heads	17,785	16,800	18,040	+7.4	19,000	+5.3
Forage Harvesters (1)	9,453	7,650	7,900	+3.9	8,400	+6.3
Conventional Balers (2)	14,022	13,609	13,500	−0.8	13,600	0
Big Balers	16,450	16,450E	17,000E	+3.1	18,350E	+8.1
Windrowers	7,100	6,800	6,600	−1.5	6,700	+2.0
Mower-Conditioners	19,452	18,522	18,900	+2.0	20,500	+8.5
Moldboard Plows	24,000	18,500E	17,000E	−8.1	16,550E	−2.6
Disk Harrows	51,800	45,100E	47,500E	+5.3	50,500E	+6.4
Field Cultivators	14,500	14,000E	14,650E	+4.7	15,900E	+9.0
Chisel Plows	14,000	13,440E	14,100E	+4.8	15,450E	+9.5
Grinder Mixers	8,500	6,250	6,700	+7.2	7,700	+14.9
Manure Spreaders (4)	14,000	12,460	13,350	+1.8	14,000	+4.9

*Preliminary figures. E—I&T estimates. (1) Shear-bar type. (2) Bales under 200 lbs. (3) Bales over 200 lbs. (4) Box type.
Source: Farm & Industrial Equipment Institute.

The big forecast of 1982-1983:

THIS YEAR—IMPROVEMENT IN 2nd HALF NEXT YEAR—LOOKING GOOD

Robert Green (J I Case Co.) delivered the report on the consensus outlook at the Marketing & Management Conference, held by the FIEI Jan. 24-26 at Rancho Mirage, Calif.

Industry marketers see moderate sales advances, getting better later in the year, and from this distance 1983 looks even better.

By Bill Fogarty

■IT'S THE "State of the Industry" sales forecast. Marketing executives of the Farm & Industrial Equipment Institute's Farm and Agri-Equipment divisions participate. Since it's the only public and broad-scale estimate of what will happen, and since it is fairly detailed in terms of numbers and percentages, it has to be considered the best divining rod available to this industry's watchers.

It's a consensus forecast. According to the rules of the game, marketing executives of member companies take their best shot at predicting the percentage, if any, by which unit sales of a product type will change up or down. Each player is expected to call the shots as he thinks they will apply to the whole industry, not just to his own company.

The FIEI takes its members' responses—collected in late December—and establishes the median estimate for each item. In addition to what they think will happen with individual products, the respon-

(More...)

dents give opinions on such items as farmers' cash receipts, farmers' net income, acres planted in certain crops, industry dollar volume, their own advertising outlays, prime rates and the long-term outlook.

(I&T Feb. 7's What's Ahead and Editor's Notebook carried looks at long-term outlook commentary and at advertising outlays in relation to 1982 sales volume.)

When it is all computed, members get their first look at the consensus forecast as part of the FIEI's Marketing & Management Conference.

The report

This year, the conference was held Jan. 24-26 at Rancho Mirage, Calif. Reporting on the forecast survey's outcome was Robert Green, J I Case Co.'s general marketing manager for North America and Latin America.

For a quick review of how they forecast product sales in 1982 and 1983, refer to the two tables that are part of this article. The percentages are the median estimates. Some of the unit numbers have been estimated by I&T because FIEI this year is not divulging numbers on product groups that do not have public reporting programs.

Here are several additional items:

Farm receipts, net income: Farm Equipment Div. (FED) participants see farmers' 1982 gross income at $153.7 billion; Agri-Equipment Div. members see it slightly higher at $155 billion. Next year, it's expected to rise to $167 billion (FED) and $170 billion (AED).

The 1982 take for farmers should net out at $22.5-23 billion. Next year, both see it rising to $26 billion.

Even though the median estimates of both groups are similar, there are broad ranges of opinion. Net farm income in 1982, for example, is predicted at from a low of $16.1 billion to a high of $30 billion. In 1983, the spread is from $20.6 billion to $38.5 billion.

1982 dollar volume. FED members have less diversity opinion about how the industry's dollar volume will run this year than do AED executives. FED estimates range from plus 12 to minus 8 per cent. AED predictions go all the way from plus 25 to minus 12. But the mid-point for both groups was for a plus 5 per cent.

Interest rates: How high, how low, when?

How capable are farm and agri-equipment marketers of predicting what will happen with interest rates? In January 1981, they were generally expecting it to get down to 13 per cent by August.

Unfortunately, interest rates didn't get that low in August 1981, or any time after that. So the marketers have to take low marks in that department.

They needn't feel bad, however. Economists in the hire of big banks, brokerage houses, the government and other institutions that worry with money didn't do much better in 1981. So it can be argued that farm equipment people are entitled to take their shot at forecasting the money game as well as anyone else.

These marketers also estimated, in early 1981, how low the prime rate would have to get before it would not be a deterrent to sales. Their median estimate was 12 to 13 per cent.

Give them good marks on that part. Interest rates never got that low—and sales were deterred all year long.

As part of the 1982 "State of the Industry" survey, the marketers were asked to indicate in which month of the year they thought interest rates would peak and when they would hit their low point. Here's how they answered:

1982 Month	Peak (Number replying)	Low
January	7	11
February	1	8
March	11	16
April	4	12
May	6	7
June	7	3
July	7	3
August	8	6
September	12	5
October	12	4
November	3	3
December	4	4

Next, they were asked to predict the interest rate high and low levels for 1982. Here's what they came up with:

Interest Rate (Pct.)	High (Number replying)	Low
22	2	...
21	1	...
20	12	...
19	9	...
18	27	...
17	10	...
16	13	1
15	7	7
14	...	26
13	...	18
12	...	20
11	...	7
10	...	3

Next, they were asked to indicate

(Continued on page 22)

AGRI-EQUIPMENT FORECASTS, 1982, 1983

(Per cent change, retail dollar volume)

Product Group	1982	1983
Chemical Application Equipment	+ 6.0	+ 5.0
Portable Augers, Elevators	+ 5.0	+10.0
Bin-Type Crop Dryers	+10.0	+10.0
Batch, Continuous-Flow Dryers	-0-	+ 8.0
Farmstead Equipment		
Dairy, Beef	-0-	+10.0
Hogs	+ 3.0	+13.0
Grain Bins	+10.0	+10.0
Milking Machines	-0-	+ 5.0

Source: Farm & Industrial Equipment Institute

Sales Forecast

(Continued from page 10)

how low they thought the interest rate would have to be before it would not be a deterrent to sales. Their answers:

Interest Rate (Pct.)	Survey Responses
17	1
16	0
15	10
14	9
13	14
12	33
11	6
10	5
9	3

Finally, when will the sales change happen in 1982?

First half: 8
Second half: 56
Through the year: 12

The responses to these questions indicate considerable diversity of opinion, but they can be summed up thus:

Interest rates are expected to peak most likely in late summer or early autumn, but are not likely to get up much above 18 per cent. The low point for interest rates is expected to come soon, early in the spring, getting down to 12 to 14 per cent. This would come close to the no-deterrent level cited by most respondents—12 per cent interest. And sales activity is expected to show most strength in the second half of the year.

If this is an accurate summary of the feelings of survey respondents, they are indicating that high interest rates should be less of a sales deterrent—though still a deterrent—than they have been in recent years. The sales pickup is seen as coming in the second half of the year, when the rates are anticipated to be up.

Will it be on target?

So that is the "State of the Industry" sales forecast report. How accurate is it likely to be?

The history of this business has shown that its sales sometimes are substantially impacted, favorably or not, by events that cannot usually be expected.

For example, nobody anticipated the Soviet Union's huge purchases of farm commodities in the early 1970s that helped send net farm income to $32 billion in 1973. Similarly, nobody in this industry had any experience a few years ago with interest rate levels that are commonplace today. So if events unfolding through 1982 should prove the forecast wrong, the participants should not be criticized too severely.

But the welfare of each farm equipment marketer's company is closely tied to how well he forecasts sales. Thus, most participants in the forecast are seriously committed to the task of prediction. When the survey form comes from the FIEI office, most of them are completing a lot of vital homework.

It will probably take close to half the year to find out if the consensus forecast has more hits than misses. Knowing this, the FIEI will conduct an update version of the 1982 survey in late April or early May. It will be reported when the next Marketing & Management Conference is held May 27-28 at Ohio State U. in Columbus. □

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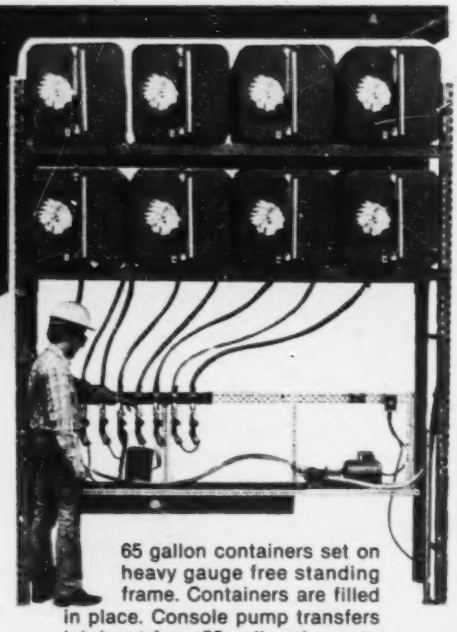

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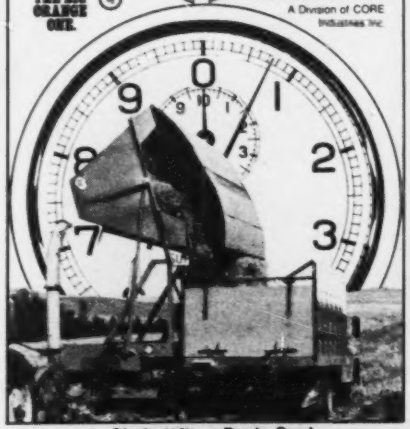

Circle (12) on Reply Card

RETAIL SALES OF SELECTED FARM EQUIPMENT – Jan.-Nov. 1980 and 1981(1)
(In Units)

	Combines Self-Propelled		Corn Heads		Hay Balers(2)		Windrowers Self-Propelled Power Units		Windrowers Self-Propelled Total Heads		Grinder-Mixers		Shear-Bar Forage Harvesters(3)	
	1980	1981	1980	1981	1980	1981	1980	1981	1980	1981	1980	1981	1980	1981
Alabama	235	245	61	56	147	219	2	.....	1	.....	116	83	34	37
Alaska	5	3	.....	.....	18	14	3	.....	4	.....	1	3	.....	1
Arizona	55	80	7	1	44	50	60	58	72	67	8	5	11	13
Arkansas	655	789	5	4	182	275	.....	4	.....	4	74	41	11	14
California	262	339	52	58	165	161	273	272	302	302	5	5	69	85
Colorado	326	308	147	119	429	387	211	198	228	217	62	55	97	57
Connecticut	.....	1	.....	2	54	52	.....	.....	.....	.....	1	1	40	41
Delaware	42	29	44	31	15	8	1	1	1	1	8	9	12	3
Florida	73	61	50	29	73	85	.....	2	.....	2	42	12	25	32
Georgia	365	434	293	207	186	233	1	.....	1	.....	248	92	104	92
Hawaii	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....
Idaho	410	424	19	12	591	485	391	283	401	295	55	28	74	40
Illinois	2,521	2,545	2,640	2,494	323	241	22	11	22	13	452	339	256	210
Indiana	1,402	1,225	1,503	1,259	310	300	8	7	8	7	349	211	181	124
Iowa	2,713	2,761	2,919	2,992	317	299	131	125	138	137	1,142	867	545	380
Kansas	1,716	1,555	331	188	301	338	274	267	284	285	226	148	259	171
Kentucky	339	347	265	228	282	328	3	27	3	30	284	168	173	154
Louisiana	422	388	3	5	65	119	.....	.....	.....	.....	19	11	19	10
Maine	7	8	.....	4	70	75	2	.....	2	.....	1	2	43	32
Maryland	141	139	159	154	116	89	13	7	14	7	36	25	76	72
Massachusetts	.....	.....	.....	.....	49	44	6	.....	6	.....	3	.....	37	30
Michigan	544	525	523	513	373	280	63	44	64	45	232	170	410	280
Minnesota	1,556	1,697	1,368	1,283	713	664	626	576	644	607	547	494	833	631
Mississippi	515	512	6	15	77	124	2	.....	1	.....	43	34	60	49
Missouri	981	1,258	481	410	420	522	83	46	90	48	465	310	183	125
Montana	399	547	6	11	384	279	424	397	473	446	63	41	36	37
Nebraska	1,444	1,388	1,351	1,083	204	179	289	272	303	298	456	329	354	311
Nevada	3	3	.....	.....	38	30	57	50	62	50	2	2	8	7
New Hampshire	.....	.....	.....	.....	57	51	.....	.....	.....	.....	.....	2	34	30
New Jersey	26	17	18	12	38	35	.....	.....	.....	.....	7	10	16	8
New Mexico	38	46	15	7	127	136	63	57	66	62	12	9	7	6
New York	168	184	217	236	747	579	67	52	68	53	110	104	814	747
North Carolina	386	457	375	398	289	279	2	1	2	1	154	106	90	93
North Dakota	945	1,277	57	115	55	67	562	705	609	799	131	103	143	193
Ohio	1,124	787	1,046	786	511	474	9	10	9	10	365	237	257	205
Oklahoma	547	517	22	12	396	496	99	109	107	115	116	79	34	33
Oregon	224	239	8	23	403	307	259	198	282	227	29	21	49	57
Pennsylvania	184	189	269	220	727	652	50	42	53	43	283	197	519	470
Rhode Island	.....	.....	.....	.....	7	2	7	.....	6	.....	.....	.....	1	2
South Carolina	200	210	123	104	79	97	.....	.....	.....	.....	64	37	36	36
South Dakota	489	540	276	277	94	82	510	447	553	500	287	194	386	317
Tennessee	358	413	151	117	379	502	1	2	1	2	187	154	143	142
Texas	929	1,158	293	264	717	1,101	84	85	89	98	225	160	81	81
Utah	38	45	10	5	332	334	129	123	141	129	29	11	98	57
Vermont	1	8	1	12	108	102	4	5	4	5	.....	3	153	108
Virginia	115	146	120	118	383	298	7	9	7	10	90	70	197	160
Washington	426	433	33	47	431	374	188	122	191	149	19	9	142	73
West Virginia	5	3	5	3	157	128	1	.....	1	.....	26	10	27	28
Wisconsin	648	568	769	641	1,433	1,192	381	274	390	284	492	389	1,896	1,452
Wyoming	53	58	14	14	192	207	195	158	211	163	22	18	42	19
U.S. Government	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Miscellaneous (4)	.....	3	6	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
TOTAL	**24,035**	**24,909**	**16,062**	**14,581**	**13,608**	**13,375**	**5,563**	**5,046**	**5,914**	**5,511**	**7,588**	**5,408**	**9,117**	**7,355**

Data released January 25, 1982, Farm & Industrial Equipment Institute.

(1) Includes revisions for prior months.
(2) For making bales of under 200 lbs.
(3) Pull-type, mounted, self-propelled.
(4) Sales reported as miscellaneous are retail sales which cannot be classified by state or as U.S. Government. They include sales and dispositions that do not go through usual marketing channels such as gifts to non-profit organizations, intra-plant or company transfers, etc.

Mower Conditioners All Types 1980	1981	Manure Spreaders Conveyor-Type 1980	1981	
140	170	18	16	Alabama
8	12	1	3	Alaska
9	15	6	6	Arizona
357	465	82	78	Arkansas
44	43	61	56	California
157	139	57	45	Colorado
94	51	62	58	Connecticut
18	10	55	43	Delaware
83	86	29	22	Florida
223	211	45	32	Georgia
.....	.....	1	.....	Hawaii
162	144	120	99	Idaho
591	526	552	451	Illinois
499	487	463	381	Indiana
1,049	955	1,253	1,146	Iowa
599	619	187	121	Kansas
787	881	248	232	Kentucky
46	77	26	16	Louisiana
116	104	106	57	Maine
112	99	202	137	Maryland
51	53	68	57	Massachusetts
667	461	678	606	Michigan
1,023	971	1,360	1,099	Minnesota
101	105	19	16	Mississippi
1,145	1,422	302	236	Missouri
149	165	47	23	Montana
455	433	323	178	Nebraska
9	9	5	4	Nevada
71	55	55	36	New Hampshire
54	38	48	37	New Jersey
21	26	9	7	New Mexico
1,129	983	1,337	1,211	New York
265	244	135	101	North Carolina
133	179	100	62	North Dakota
771	623	767	609	Ohio
593	663	49	27	Oklahoma
275	178	104	74	Oregon
905	758	1,118	936	Pennsylvania
4	3	.....	.....	Rhode Island
76	133	26	13	South Carolina
83	134	200	165	South Dakota
556	728	151	114	Tennessee
1,075	1,425	136	132	Texas
192	172	112	80	Utah
243	189	211	188	Vermont
656	504	216	131	Virginia
254	194	125	90	Washington
168	150	54	58	West Virginia
2,436	1,844	2,032	1,669	Wisconsin
53	74	37	22	Wyoming
.....	.....	.....	.....	U.S. Government
.....	.....	2	.....	Miscellaneous
18,707	16,010	13,400	10,980	TOTAL

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Circle (14) on Reply Card

AUCTION PRICES OF USED EQUIPMENT

An exclusive I&T monthly report of actual prices paid recently at these leading national wholesale auctions.

Asterisk beside tractor price indicates highest bid offered on tractors which were not sold.

JONES FARM EQUIPMENT CO. Dothan, Alabama (January 12, 1982)

ALLIS-CHALMERS TRACTOR
7040 diesel, 1975 (Fair) 6800*

CASE TRACTORS
1070 diesel, 1970 (Fair) 5800
585C diesel, fork lift, 1977 (Excellent) 8900*
580B diesel, ldr., backhoe, 1973 (Good) 7750*
580B diesel, ldr., backhoe, 1972 (Fair) 6700
580B diesel, ldr., 1972 (Fair) 5000

DAVID BROWN TRACTORS
990 diesel, 1968 (Fair) 1300
990 diesel, 1967 (Fair) 1350

MASSEY-FERGUSON TRACTORS
1105 diesel, 1977 (Fair) 4700
1100 diesel, 1967 (Fair) 3500
285 diesel, 1977 (Good) 6800
285 diesel, 1975 (Good) 6850
285 diesel, 1975 (Good) 6600
275 diesel, 1975 (Good) 5800
255 diesel, 1979 (Excellent) 7200
255 diesel, 1976 (Good) 6250
255 diesel, 1975 (Fair) 5200
245 diesel, 1977 (Good) 5100*
235 diesel, 1976 (Rough) 2850
235 diesel, 1975 (Good) 4100
180 diesel, 1968 (Good) 3300*
180 diesel, 1967 (Good) 3400*
175 diesel, 1971 (Fair) 2600*
175 diesel, 1970 (Fair) 2500*
175 diesel, 1969, (Excellent) 4200
175 diesel, 1969 (Good) 3500*
175 diesel, 1967 (Good) 3200
165 diesel, 1974 (Good) 3800
165 diesel, burned, 1974 (Rough) 2350*
165 diesel, 1972 (Rough) 2400*
165 diesel, 1971 (Fair) 2800*
165 diesel, 1969 (Fair) 2900*
165 diesel, 1969 (Good) 3325
165 diesel, 1968 (Good) 3150*
150 diesel, 1965 (Good) 3150*
135 diesel, 1973 (Excellent) 3475
135 diesel, 1973 (Good) 3100
135 diesel, 1969 (Good) 2900
135 diesel, 1968 (Fair) 2400*
135 diesel, 1966 (Good) 3200
135, 1966 (Good) 3200
135, 1965 (Fair) 2500
50 diesel, 1962 (Good) 1650
35, ldr., 1959 (Good) 2500*
35, 1958 (Good) 1600*
TO30, 1952 (Fair) 700

FORD TRACTORS
5000 diesel, 1968 (Excellent) 4850*
4000 diesel, 1972 (Excellent) 4500*
4000 diesel, 1970 (Good) 3900
4000 diesel, 1966 (Fair) 2700
4000 diesel, 1963 (Good) 2300*
3600 diesel, 1979 (Excellent) 6750*
3600 diesel, 1979 (Good) 4750
3000 diesel, 1969 (Excellent) 4300*
3000 diesel, 1969 (Good) 3450*
3000 diesel, 1967 (Good) 3250*
2000 diesel, 1976 (Good) 3100
2000 diesel, 1974 (Excellent) 3600*
2000, 1963 (Good) 2250
1900 diesel, 1979 (Excellent) 5500*
1600 diesel, 1979 (Excellent) 3300*
841, 1958 (Good) 2000
841, 1958 (Fair) 1650
641, 1959 (Good) 2050
641, 1959 (Good) 1900*
640, 1955 (Good) 1725
Major diesel, 1954 (Fair) 600
NAA, 1954 (Excellent) 1700
Jub., 1953 (Good) 1500*
Jub., 1953 (Good) 1625
8N, 1952 (Excellent) 1650*
8N, 1951 (Good) 1200*
8N, 1951 (Fair) 800
8N, 1950 (Fair) 825

INTERNATIONAL HARVESTER TRACTORS
706 diesel, 1966 (Fair) 2500
674 diesel, 1974 (Good) 4100
656, 1970 (Good) 2900
634 diesel, (Fair) 2100*
414, 1963 (Good) 1400*
340 diesel, 1961 (Fair) 850
275, 1959 (Fair) 700
200, 1955 (Good) 700
186 diesel, hydro, 1981 (Excellent) 20,000*
100, 1955 (Good) 1250
Sup. A, 1949 (Good) 1000
A, 1940 (Good) 375
Cub, mo., 1948 (Fair) 1050*
Cub, 1948 (Fair) 1050*

(More...)

For complete listing of manufacturers and addresses, see the

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PRODUCT FILE

published annually on March 31

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Circle (18) on Reply Card

Auctions *(continued)*

JOHN DEERE TRACTORS
4630 diesel, duals, 1974 (Excellent) 16,000*
4630 diesel, cab, duals, 1974 (Excellent) 14,700*
4440 diesel, cab, duals, 1975 (Excellent) 21,500*
4430 diesel, 1974 (Good) 13,800*
4430 diesel, 1974 (Good) 12,500*
4320 diesel, 1972 (Fair) 6900*
4230 diesel, cab, 1974 (Good) 12,000
4020 diesel, 1967 (Good) 5500*
3020 diesel, 1966 (Excellent) 6000*
2840 diesel, 1977 (Excellent) 9700*
2640 diesel, 1978 (Excellent) 7350
2030 diesel, 1973 (Good) 4800*
2030 diesel, 1974 (Good) 4600
2010, 1961 (Good) 1375
2010 diesel, 1961 (Fair) 800*
1120 diesel, (Good) 2600*
1020 diesel, 1967 (Excellent) 3700
1020 diesel, 1966 (Good) 3300
1020 diesel, mo., 1966 (Fair) 1800*
430, 1958 (Good) 1250
70 LP, 1954 (Good) 700*
40, 1953 (Fair) 575

LONG TRACTORS
900 diesel, (Excellent) 4500*
560 diesel, (Good) 2300
510 diesel, (Excellent) 5400*
360 diesel, (Excellent) 3300*

OLIVER TRACTORS
2-62 diesel, 1970 (Good) 2400
55 diesel, 1956 (Good) 800

SATOH TRACTOR
S650 diesel, (Excellent) 2000

YODER & FREY, INC.
Archbold, Ohio
January 11 & 12, 1982

ALLIS-CHALMERS TRACTORS
B, 1947 (Rough) 350*
WD, 1951 (Good) 800*
WD-45, 1951 (Fair) 850
D-17, 1966 (Good) 3750
180, 1969 (Good) 3850
190-XT, 1968 (Fair) 3300*
190-XT, 1971 (Good) 5400*
200, 1972 (Good) 6500*
5040, 1979 (Good) 4550

DAVID BROWN TRACTORS
990, ... 950
1200, (Good) 3150*

CASE TRACTORS
730, 1965 (Fair) 2750
830, 1965 (Fair) 2100*
930, 1965 (Fair) 1650
930, 1968 (Good) 4150
1030, 1966 (Good) 4000*
1175, 1973 (Rough) 5500*

WHITE TRACTORS
2-155, 1979 (Good) 14,000*
2-35, 1980 (Excellent) 4000*

INTERNATIONAL HARVESTER TRACTORS
3588, 1981 (Excellent) 36,500*
H, 1949 (Rough) 550*
H, 1948 (Rough) 450*
M, Idr., 1950 (Fair) 600*
M, 1951 (Fair) 675*
M, 1947 (Fair) 775
Sup. M, 1952 (Good) 1000
W-6, 1950 (Fair) 800*
384, Idr., 1979 (Excellent) 6500*
450, 1957 (Fair) 1100*
560, 1960 (Fair) 1650*
560, 1960 (Rough) 1500*
560, 1959 (Rough) 1000
560, 1960 (Fair) 2300*
656, 1967 (Rough) 2650
656, 1968 (Fair) 2600*
706, 1966 (Fair) 3400*
706, 1965 (Fair) 3750*
786, 1973 (Good) 5700*
806, 1965 (Fair) 3700*
806, 1963 (Rough) 1900*
806, 1965 (Fair) 4100*
806, 1965 (Fair) 5400
806, 1967 (Fair) 5800
856, 1969 (Fair) 5700*
856, 1968 (Fair) 6050*
856, 1968 (Fair) 7000*
966, 1972 (Fair) 5650*
1026, 1970 (Good) 6000*
1066, 1972 (Good) 8800
1206, ... 5450
1206, 1965 (Fair) 5900*
1456, 1970 (Fair) 6800*
1466, 1976 (Excellent) 9100*

JOHN DEERE TRACTORS
R, 1952 (Fair) 975
70, 1956 (Fair) 900*
620, 1958 (Fair) 1300*
620, 1957 (Fair) 1450*
720, 1959 (Fair) 1350*
730, 1960 (Fair) 1800*
830, 1956 (Fair) 1800*
3010, 1962 (Good) 3100*
3020, 1967 (Fair) 3500*
4010, 1963 (Fair) 4750*
4010, 1963 (Good) 3200*
4010, 1963 (Good) 3400*
4020, ... 3550
4020, 1967 (Fair) 5750*
4020, 1967 (Fair) 6700*
4020, 1966 (Good) 6400
4020, 1965 (Fair) 5900
4020, 1968 (Good) 7000*
4020, 1964 (Good) 5300
4230, 1974 (Good) 13,500*
4430, 1974 (Good) 15,100*
4430, 1974 (Good) 16,500
4440, 1981 (Excellent) 28,000
4630, 1974 (Excellent) 11,500*
4630, 1976 (Good) 14,250*
4630, 1975 (Excellent) 15,300*
5020, 1968 (Fair) 5200
3130, 1976 (Fair) 7500*

COCKSHUTT TRACTORS
40, ... 375
1650, 1964 (Rough) 2800*

MASSEY-FERGUSON TRACTORS
65, 1960 (Fair) 1625
135, 1967 (Fair) 3150
165, 1968 (Rough) 3175
165, 1970 (Fair) 2950
180, 1967 (Good) 3800
180, 1967 (Rough) 3350
245, 1976 (Fair) 4650
1085, ... 8500
1085, 1978 (Good) 8700*
1100, 1966 (Good) 3300
1130, 1967 (Fair) 4750*

FORD TRACTORS
8-N, 1947 (Rough) 920
960, 1956 (Fair) 1050*
Fordson-Dexta, 1958 (Rough) 1200
3400, Idr., 1970 (Fair) 2800*

DEUTZ TRACTORS
D-13006, (Fair) 7400*

MINNEAPOLIS-MOLINE TRACTOR
M-670, 1964 (Rough) 2100*

OLIVER TRACTORS
77, 1950 (Fair) 425
1450, 1967 (Fair) 2500*
1600, Idr., 1961 (Fair) 2100
1650, 1964 (Rough) 2300
1800, 1961 (Rough) 2300*
1850, 1965 (Fair) 3000
1855, 1966 (Good) 4250*
1950, 1965 (Fair) 4350*

NOTES
Prices reported are for individual sales at wholesale on "as is," "cash and carry" basis.
Prices reported are NOT averages.

Condition classifications: EXCELLENT means—Engine: in perfect condition, 400 to 600 hours of use; Rubber: 80% tread remaining, no breaks or cracks; Paint: original and bright; General Appearance: excellent.

GOOD means—Engine: good running condition; Rubber: 70% tread remaining, no breaks or cracks; Paint: original paint or a good repaint job; General Appearance: good over-all.

FAIR means—Engine: possibly in need of a minor overhaul to restore; Rubber: 60% tread remaining, some cracking evident in side walls; Paint: only fair, weathered and some rust apparent; General Appearance: worn, some dents, minor parts such as gage covers missing or broken.

ROUGH means—Engine: obviously in need of a major overhaul; Rubber: smooth; Paint: scarred, weathered, rusty, needs painting urgently; General Appearance: dents, ruptures, broken parts, loose wires, some components such as lights broken, missing or inoperative.

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